EXPERIMENTS ON FREE ENERGY—PART 1

This article is extracted from an open letter written to Donald A. Kelly of the Space Energy Association, PO Box 11422, Clearwater, Florida 34616, USA, for inclusion in the Association's quarterly *Space Energy Newsletter*.

Dear Don, 30 October 1993

I believe your readers will be interested in the following report of three experiments which form my starting point for onward developments.

As you know from our meeting at the Denver, Colorado event in April, I claim an understanding of the ferromagnetic processes by which we can tap energy from the vacuum state. At the Colorado meeting I spoke on two themes:

(a) the possibility of building a panel in which internal heat transfer by radiation through successive layers of microscopic optical concentrators could develop a temperature differential across the panel, and

(b) the scientific basis for my case that a switched reluctance motor can deliver more power output than is needed as power input.

Furthermore, at the mountain retreat where we had a private brainstorming session involving many of the speakers, I mentioned the thermoelectric project in which I was involved and showed a video demonstrating the quite remarkable speed at which ice can form with very little electric power input, and how electricity is regenerated with high efficiency drawing on the energy of melting ice.

That Colorado meeting was a landmark event in the history of new energy developments as it marks the beginning of an escalation which will lead to a bonanza on the energy front.

My object is to demonstrate the scientific basis and technical feasibility of three 'free energy' projects. I direct my comments at those who profess to pass on knowledge to future generations. I am not here going to explain how what is described can be implemented in a practical machine. That will follow later when I progress to that stage. I know what I say has a practical end product because my sole objective is to bridge a knowledge gap to cover the true science lying in that zone between orthodox doctrinaire belief and the working 'free energy' machine.

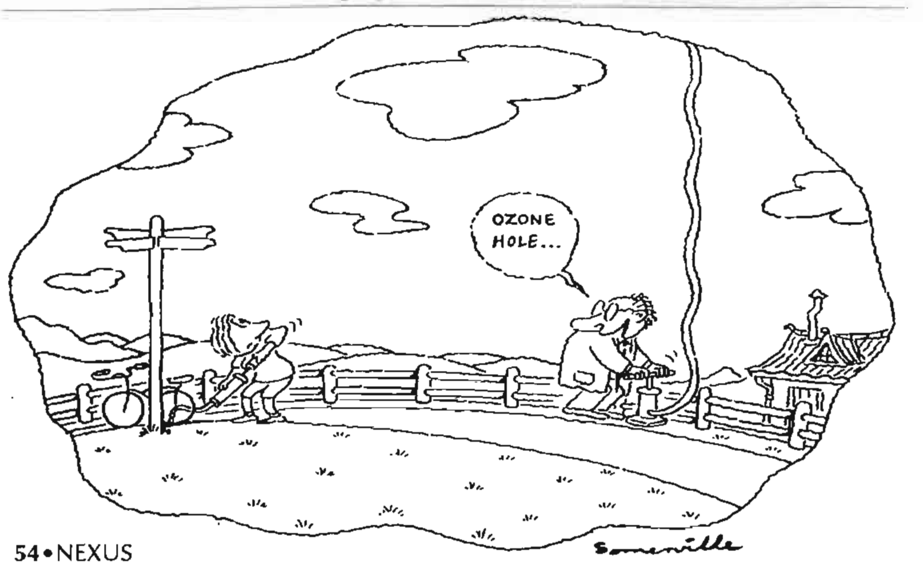
The three target objectives for my three basic experiments are:

(1) The curious fact that our thermoelectric refrigeration device is built with an inherent functional symmetry and yet it always cools on its exposed test heat sink surface, it being noted that the electrical operating unit is mounted on the same panel that constitutes the second heat sink surface. The latter gets hot as the former cools, but, unless Scott Strachan builds a version that separates the electrical operating unit from the second heat sink, we shall have to await the clear experimental evidence that, in truth, both surfaces are cooling as the device delivers electrical power!

(2) The source of the over-unity power action of the Adams motor and any such reluctance-type motor which claims more than 100% performance. The physics reason was explained by me at the Denver meeting, but there is need for others to be shown how this is so experimentally.

(3) The many claims of free energy generation by solid-state magnetic devices of historical record, focusing however on the research of Hans Coler, because this was confirmed independently by specialist government investigators.

I shall now outline the three experiments that I have performed, each having separate bearing on one of these topics.



THERMOELECTRIC HEAT PUMP EXPERIMENT

The idea that one can build a power transformer which draws in heat and so cools a housing in which it is enclosed, and at the same time converts that rejected heat into electricity fed along wires leading from that housing, is one that seems beyond belief. It defies the second law of thermodynamics, but that should not deter a pioneer who has in his possession the device mentioned in (1) above.

The object of the experiment is to test a suspicion that current circulation within a bimetallic lamination can, under certain circumstances, result in cooling for current flow across the thickness of the lamination. The experiment acknowledges that such cooling would produce an EMF and put electrical power into increasing the current flow in the plane of the lamination, unless deflected from the lamination, transverse to its width. This means extra heating and anomalous loss augmenting the eddy-current loss, but such an anomaly is direct evidence of that underlying cooling and electrical generation.

The prototype devices in (1) all used thin film bimetallic layers of aluminium and nickel and involved that transverse 'deflection'. The 'circumstances' stated are that the lamination includes a ferromagnetic layer of thickness less than the 100 micron dimension, the size of a magnetic domain formed within the larger crystals of the material.

In the subject experiment, there was no transverse deflection but the other condition was met. Commercially available steel foil (known in the trade as 'shim steel') of 2 thousandths of an inch in thickness was obtained, and an electroplating firm was asked to coat one face with nickel using an electroless plating process. The nickel coating was 0.7 thousandths of an inch in thickness. It was found that this could be cut into small rectangles for assembly in a 100 VA transformer core, supplied in kit form (e.g., by a Radio Shack dealer—RS in UK). Thin card placed between the laminations was used to insulate them from each other. The arrangement was as shown in Fig. 1, with legs A and B being formed by the bimetallic pieces. Primary and secondary windings, respectively series-connected in pairs, were formed on each of the legs A and B.

The test involved observing on an oscilloscope the changing shape of the B-H magnetisation loop as primary current input increased.

To present the B-H loop on an oscilloscope screen, the secondary winding was connected across a 100 K resistor in series with a 2 μF capacitor and the y input to the oscilloscope was taken across the capacitor terminals. The H input was provided by incorporating a series resistor in the primary feed circuit and taking the x input from the potential drop across that resistor.

What I was intending by this experiment was to estimate the eddy-current loss resulting from the bimetallic lamination feature. Having done Ph.D. research studying anomalous eddy-current losses experimentally, I was particularly curious as I had never heard of anyone ever before testing a transformer built using bimetallic Fe:Ni laminations. Moreover, I knew that I was using laminations that were much thinner, though more conductive, than is customary in transformers. Added to this, I knew from my Ph.D. research days during which I measured the loss factors in different elemental sectors of the B-H loop, that there was a particularly high and inexplicable loss in a part of the loop where it was least to be expected.

In the event, what I found was astounding in the light of my experience. I did not have to do any calculations. With such thin laminations magnetised well below saturation at mains power frequency, the B-H picture on the screen at low current was a straight line angled to represent the magnetic permeability. The fact that it was a line meant that there was negligible loss, which is what I expected until a certain threshold was reached.

My reasoning was that the transformer action would introduce heat into the core and that heat would be conducted away. I had planned to arrange for the heat to flow one way so as to set up a temperature difference across the laminations, and then my presumption was that a DC current would circulate thermoelectrically and affect the form of the loop. Indeed, a DC bias would displace the position of the loop on the screen both in the x and y directions.

Note that a B-H loop with little eddy-current has a rather special shape representing hysteresis effects. An over-dominant eddy-current effect makes the loop elliptical and the width of the loop, in tending to fill more and more of a bounding geometrical parallelogram form, is a measure of the loss portion of the reactive volt-amp input. Remember that magnetic energy is stored as inductance energy and, in oscillating, this energy sheds the loss which is represented by that loop.

Now, what happened was astounding because, upon bringing the current input up to near mid-range, the B-H loop became very wide and quite elliptical. Furthermore, as expected, it shifted laterally by a small but very apparent amount (about 15%). However, the ultimate surprise was that, as the current input increased, the loop began to topple and turn clockwise until, with a greater current, it actually went over so far as to lie in the 'top-left to bottom-right' sector of the oscilloscope screen, whereas it began at low current in the conventional 'bottom-left to top-right' orientation.

This means that the transformer core having the bimetallic laminations has either become a capacitor, which it is not, or the phase governing the power and magnetomotive force reaction has inverted through 180°. This is an obvious indication that the core wants to act as a generator by which heat sustains a current producing its magnetisation and, instead of demanding input current to set up the reaction to the changing magnetic flux, it produces current in a forward direction augmenting that magnetic condition. In the experiment, of course, all that extra current drawn from heat goes into enhancing the eddy-current losses enormously. This is why the loop gets so wide.

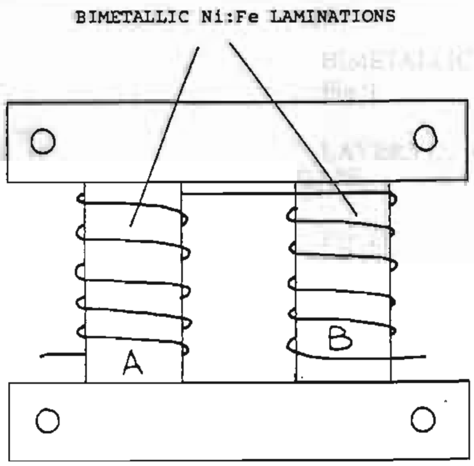


Fig. 1

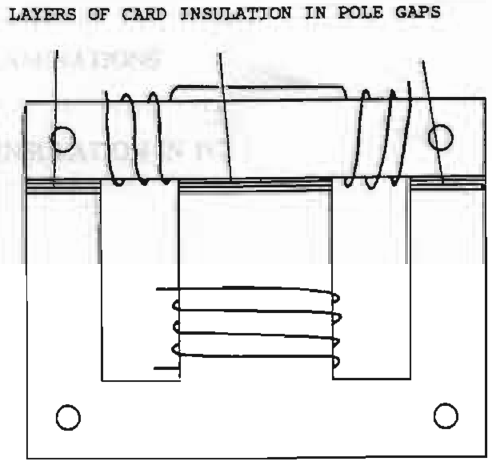


Fig. 2

So, here was confirmation that there is a process involved in the magnetisation of bimetallic laminations that enhances energy transfer productive of anomalous current flow. The source of energy is heat input, but if we dissipate the electricity before taking it off for useful purposes, so we see nothing abnormal in the overall energy action. What we see in this experiment is that toppling B-H loop! There is the clear evidence and here, at last, from this experiment, emerged the confirmation of my suspicion of the secret as to why our thermoelectric device works in its incredibly powerful refrigeration mode. That device has its own special way of taking off that electricity before it develops those very high eddy-currents. Here, in fact, was a new development, a discovery which had eluded the author's Ph.D. research and which could have enabled the author to build a 'free energy' device decades ago, had this insight been apparent in those early years. But who would have thought that a transformer built from laminations of iron and nickel bonded in layers could tell us anything new about electromagnetism?

It must be said, however, that the 'special' way of taking electrical energy from a stack of bimetallic laminations, as used in the prototype devices, involves building those laminations into a parallel plate capacitor. That is not an easy task, and to take it from the demonstration prototype to the commercial world needs the support of a major semiconductor partner. The task is much easier with this new understanding of the physics involved, and attention is being given to the possibility of drawing the power off by magnetic induction. It is in this regard that Scott Strachan, the Scotsman who has built the three prototype devices to date, did become preoccupied by a new discovery, not yet published, by which the thermoelectric action can be controlled with negligible power input, much as a grid in a thermionic valve can control the current between anode and cathode. However, progress on that is extremely slow, and as the need for a new refrigeration technology cannot await Strachan's solitary endeavours, so I am disclosing by this letter my own experimental findings to arouse interest and expedite onward development.

I see the experiment just reported as one that very clearly indicates that heat can be converted into electricity to provide refrigeration technology which, at the same time, generates electrical power. The one step essential to the completion of this picture is the verification that if Scott Strachan, or others who now replicate the device, builds a fourth prototype device in which the electrical power circuit is not mounted on the 'hot' heat sink, then that heat sink will also cool.

You will realise, Don, that the above is also my message to those companies now expressing interest in researching this project. This, together with a copy of a specification I can supply to interested parties, points the way forward in a research venture that should provide the best and most effective method of efficient refrigeration and bring, miracle though it might seem, the added bonus of being self-powered electrically.

THE OVER-UNITY RELUCTANCE MOTOR EXPERIMENT

One can build an Adams motor and prove that over-unity operation is a reality. However, most academic researchers would deem this to be a waste of time since it is recognised as being a 'crank' pursuit seen as an attempt to create a 'perpetual motion' machine.

My task, experimentally, therefore is to present something far more straightforward that can be assembled and tested in a school physics laboratory or at home using a standard transformer kit costing a few dollars. All one then needs is an instrument to read amps and volts and a variable mains power voltage supply.

I did this experiment to satisfy myself that what I said at the Denver meeting in Colorado holds up. I am glad I did the experiment because it told me something new and important.

I had thought that, in order to access free energy from ferromagnetism, I would need to power the magnetic core above the 'knee' of the B-H curve, where the magnetism builds up by the atomic electron spins being forced into alignment rather than merely flipping through 180°. Here I have to be careful because I have a very thorough grounding in ferromagnetism and I should avoid terminology unfamiliar to your readers.

It must be said, however, that there is no way forward for anyone involved in real research on free energy from ferromagnetism unless that person understands the physics of the subject. The hit-and-miss ventures of those who build permanent magnet 'free energy' machines and get them to work anomalously only guide others equipped with the right training to take the research forward. I say 'only' because this is a simple situation. Those with the knowledge do not want to believe that 'free energy' is possible. Those without the knowledge cannot prove their case, because they cannot speak the scientific language that applies. However, once on the scent and believing in what is possible but not knowing why, those 'experts' on magnetism will move rapidly in advancing the technology in the real commercial world.

So, here I aim to point at an introductory lesson or experiment and, to back this up, I commend those attempting this to read about the basic principles of magnetism as explained by an engineer—not a physicist! The best book that I know of for this purpose is one authored by a professor who was one of the examiners of my Ph.D. thesis. His book tells the reader in simple language how magnetism develops as domains reorientate their action and, further, his book tells the reader about anomalous energy aspects, including the unsolved mystery of extremely high loss anomalies (a factor of 10 greater than theory predicts). I refer to a book sold in students' paperback edition by the Van Nostrand Company (Princeton, New Jersey), published in 1966 and authored by F. Brailsford under the title, *Physical Principles of Magnetism.*

If the reader belongs to a university and that book can be accessed from the library, then that reader will, I feel, after performing the following experiment, be able to make sense of the 'free energy' opportunities now confronting the world of magnetism. The Brailsford book is not, of course, necessary as a preliminary to the experiment but it can help in onward thinking. Indeed, as an aside, I mention that when I spoke recently about the Floyd Sweet device to one of our mutual collaborators here in UK, I was gratified to hear that he, too, has a copy of the Brailsford book.

The experiment is simplicity itself, considering the energy issue involved. Take a standard transformer kit and assemble the laminations so that there is what is virtually an air gap in the core. Be prepared to reassemble the core partially with different width gaps. I cut pieces of card of 0.25 mm thickness and performed the experiment in ten repeat assembly stages, using 0 to 9 card thicknesses.

The idea of the experiment is to create an excited core state in which there is a known amount of energy stored in the air gap. If the AC frequency is 60 Hz this means that in 1/240th of a second an amount of energy is supplied as inductance energy that can meet the needs of the air gap. Note that I consistently made estimates of energy that were worst-case from our 'free energy' perspective. Therefore, the extra energy supplied that is stored as inductance in the ferromagnetic core itself, rather than the air gap, is ignored. The plan is to compare that energy with the mechanical energy that we could take from the gap if the poles thereby formed were to close together and do work as if in an electromagnet. Textbooks tell us that the energy determined by the flux density in the gap represents that mechanically available energy.

So we need, for each air gap thickness, to measure the flux that crosses the air gap. We do this by wrapping a search coil around the part of the core that is on the side of the air gap remote from the magnetising coil and measuring the voltage induced in that search coil. It may be verified, by having a separate search coil on the magnetising coil side of the gap, that the flux traversing the gap and linking the test search coil is nearly the same but a little less than that on the magnetising side. So, in our worst-case analysis we may rely on the mechanical energy calculated from the weaker flux measured in the test search coil. That flux must be less than the flux in the gap.

By adjusting the current at successive gap thicknesses to ensure that the voltage sensed by the test search coil is always the same, we then know that the gap energy available as mechanical work increments linearly with gap thickness. For each such measurement we record the current registered as input to the magnetising coil.

If we now multiply the current by the voltage measured, allowing for the turns ratio as between the magnetising winding and the test search coil, we can find the volt-amp input, which in the absence of losses is the reactance or inductive power. This allows us to compare the power output potentially available mechanically from such an air gap, if it were in a reluctance motor structure, compared with the reactive power supplied to set up that potential.

It is found that the mechanical power is appreciably greater than the input power, thereby demonstrating that 'free energy' is to be expected.

Now, one does not even need to worry about the calculations to find the reactive power input by multiplying volts and amps and allowing for the coil turns ratio. It suffices to plot the curve of current for different air gap thicknesses. Since the flux crossing the gap has fixed amplitude, as measured by a constant voltage reading, that means linear increase in mechanical power with air gap, so if the current were to increase at a rate that curves upwards with increasing air gap we would see a discrepancy representing a loss, but if it curves downwards then that means that there is a 'free energy' source.

The experiment is very positively showing the downward curve and so gives the 'free energy' answer, but, to my surprise, with the coil arrangement shown in Fig. 2, I found that the 'free energy' becomes available well below the knee of the B-H curve at quite normal flux densities! Even at one-fifth of magnetic saturation levels, the excess free energy potential can exceed the input power and give a twice-unity factor of performance. It is, therefore, no wonder that at higher flux densities one can aim for a 700% performance, as the Adams motor has shown.

On reflection, the reason of course is that magnetism set up by a coil on a magnetic core progresses as flux around the core circuit by virtue of a 'knock-on' effect owing to internal domain flux rotation. This is essential and is usually attributed to a flux leakage reaction, as otherwise magnetism remote from a magnetising coil could not navigate the bends in the core. That flux rotation, which is dominant above the knee of the B-H curve for a system with a magnetising coil coextensive with the length of the core, is brought into effect at low flux densities if the coil only embraces one part of the core.

I regard the experiment just described as a crucial experiment proving the viability of over-unity-performing reluctance drive motors and believe it should become standard in all teaching laboratories concerned with electrical engineering and eventually, as physicists see the aether in its new light, also in all high school physics laboratories.

Continued next issue...